

**Notice of Allowability**

Application No.

10/816,627

Applicant(s)

BEICA ET AL.

Examiner

Art Unit

Christy L. Novacek

2822

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed April 7, 2006.
2. ☒ The allowed claim(s) is/are 1 and 5-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>1/17/06, 4/7/06</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                      | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

### **DETAILED ACTION**

This office action is in response to the amendment filed April 7, 2006.

#### ***Response to Amendment***

The statement that the current application, 10/816627 and the Egli (US 20030226758) reference were commonly owned at the time of the invention is sufficient to overcome the rejections of claims 6 and 15-20 as being unpatentable over 35 U.S.C. 103(a). It is noted that current application 10/816627 claims priority to provisional application 60/460937. Provisional application 60/460937 discloses the limitations of claims 1 and 5-20; therefore claims 1 and 5-20 of the application are given the benefit of the priority filing date of the provisional application. Because the filing date of the provisional application antedates the publication date of the Egli reference and because both the Egli reference and the current application 10/816627 were commonly owned at the time of the invention, the Egli reference cannot be used as a reference under 35 U.S.C. 103(a).

The limitations added to claims 1 and 5-20 are sufficient to overcome the Egli (US 20030226758), Egli (US 6,706,418) and Matsuki et al. (US 6,666,369) references either alone or in combination. Therefore, the rejections of claims 1, 5 and 7-14 under 35 U.S.C. 102(e) and claims 6 and 15-20 under 35 U.S.C. 103(a) are hereby withdrawn.

#### ***Allowable Subject Matter***

Claims 1 and 5-20 are allowed.

The following is an examiner's statement of reasons for allowance:

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The primary reasons for the allowance of claims 1 and 5-14 is the inclusion therein, in combination as currently claimed, of the limitations of an electrolyte composition including tin, alloying metals of silver and copper or silver and bismuth having a range of 0.01-10 g/L, at least one multivalent compound, an acid, a thiourea derivative, and an additive of alkanol amines, polyethylene imines or alkoxylated aromatic alcohols. These limitations were found in claims 1 and 5-14 and are neither disclosed nor taught by the prior art of record, alone or in combination.

The primary reasons for the allowance of claims 15-20 is the inclusion therein, in combination as currently claimed, of the limitations of forming a seed layer over bump pads, and depositing a tin-alloy bump over the bump pads by contacting the die with an electrolyte composition including tin, alloying metals, an acid, a thiourea derivative, and an additive of alkanol amines, polyethylene imines or alkoxylated aromatic alcohols. These limitations were found in claims 1 and 5-14 and are neither disclosed nor taught by the prior art of record, alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

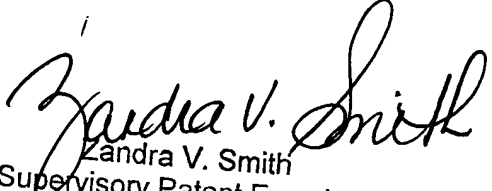
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christy L. Novacek whose telephone number is (571) 272-1839. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLN  
June 23, 2006

  
Zandra V. Smith  
Supervisory Patent Examiner  
24 June 2006